



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/586,200

07/14/2006

Martin Ernst Tollner

M03B326

2779

71134

7590

02/07/2011

Edwards Vacuum, Inc.

2041 MISSION COLLEGE BOULEVARD

SUITE 260

SANTA CLARA, CA 95054

EXAMINER

BAYOU, AMENE SETEGNE

ART UNIT

PAPER NUMBER

3746

NOTIFICATION DATE

DELIVERY MODE

02/07/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LORETTA.SANDOVAL@EDWARDSVACUUM.COM

Office Action Summary	Application No. 10/586,200	Applicant(s) TOLLNER, MARTIN ERNST	
	Examiner AMENE S. BAYOU	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) 6-12 and 17-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/14/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 10/29/10 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5, 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. In re claim 1, lines 5-6 recite "setting an initial flow out of the chamber for achieving a pressure above the required pressure" while the same claim, line 7 states that "a transient period which does not allow the pressure to exceed the required pressure". These two limitations are contradictory to each other. Examiner interpreted the limitation in lines 5-6 as "setting an initial flow out of the chamber so as to increase a rate of pressure increase".

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 15,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (6474949) in view of Beyer et al (5944049).

7. In re claim 1 Arai et al. disclose an evacuating unit including:

- A method of setting the pressure in a **chamber (10;figure 1)** of a vacuum system to a required pressure (**column 5,lines 27-37**), the system comprising a pressure control system including a **pump (32)** for evacuating gas from the **chamber (10)** , the method comprising setting an initial flow out of the chamber so as to increase the rate of pressure increase (**column 5,lines 15-26**) , the initial flow occurring over a transient period which does not allow the pressure to exceed the required pressure (**column 5,lines 27-37**) , and setting a preset flow out of the chamber after the transient period has elapsed for achieving and maintaining the required pressure (**column 5,lines 27-37**),wherein the chamber is specifically used in flat panel display process (please note that column 3,lines 45-49 it is stated that the chamber is used in semiconductor manufacturing),wherein during the transient period, the

Art Unit: 3746

pump speed is reduced (**column 5, lines 27-37**) so that the amount of gas which leaks up-stream across the pump increases so as to increase the gas flowing into the chamber (since the pump speed is reduced it is evident that the more gas is accumulating than being evacuated). Arai et al., however fail to teach an inflow gas flow controller and a downstream flow controller valve. But Beyer teach a similar vacuum device including a flow controller (denoted as Qhv)for allowing the flow of gas in to the chamber and also and a valve downstream of the **pump (2)** ,wherein the setting comprises varying a conductance of the valve downstream of the pump (**the conductance of valve 11 is varied by controller 10 as detailed in column 6, lines 4-37**).It would have been obvious to one skilled in the art at the time the invention was made to have modified the pumping apparatus of Arai et al. by using an inflow controller and conductance variable valve downstream of the pump as taught by Beyer et al since it would further help to correctly regulate the gas flow rate and the pressure in the vacuum chamber as needed.

In re claim 2 Arai et al. in view of Beyer et al. as applied to claim 1 disclose the claimed invention:

Arai et al. disclose:

- The transient period elapses when the pressure has increased to the required pressure and the preset flow maintains the pressure at the required pressure (**column 5, lines 15-37**).

In re claim 3 -5 and 16 Arai et al. in view of Beyer et al. as applied to claim 1 disclose the claimed invention:

Arai et al. disclose:

- Setting a preset flow is attained by setting the effective pumping speed of the pressure control system to a preset effective pumping speed, and the initial flow is attained by setting the effective pumping speed lower than the preset pumping speed during the transient period (**column 5, lines 15-37**); wherein the effective pumping speed is controlled by reducing the speed of the pump, wherein setting a preset flow is attained by setting a preset speed of the pump and the initial flow is attained by reducing the speed below the preset speed during the transient period.

In re claim 15 Arai et al. in view of Beyer et al. as applied to claim 1 disclose the claimed invention:

Arai et al. disclose:

- During the transient period the initial flow is not maintained at a constant level (**column 5, lines 15-37**).

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (6474949) in view of Beyer et al (5944049) further in view of McMillin et al. (6142163).

Art Unit: 3746

In re claim 14 Arai et al. as modified disclose the claimed invention except stating that the initial flow is maintained at constant level. But McMillin et al. teach similar evacuation method and stated that during the transient period (initial phase) the initial flow is maintained at a constant level for a fixed time (**this step is a conventional method as clearly pointed out in column 5, lines 18-24**). It would have been obvious to one skilled in the art at the time the invention was made to have used a constant flow during the transient pumping phase of Arai et al. as taught by McMillin et al. based on the amount of time required for evacuation (such choice merely depends on design parameters or specific pumping condition, and the skilled in the art would have chosen a constant or variable flow based on need).

Response to Arguments

9. Applicant's arguments with respect to claims 1-5 and 13-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amene Bayou whose telephone number is (571)270-3214. The examiner can normally be reached on Monday through Friday, 8:30am to 5:30pm EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/Amene S Bayou/

Examiner, Art Unit 3746